

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1. (Currently amended) An isolated nucleic acid encoding a taste transduction G-protein coupled receptor, wherein the nucleic acid specifically hybridizes under highly stringent conditions to a nucleic acid encoding an amino acid sequence of SEQ ID NO: 1, SEQ ID NO:2, or SEQ ID NO:3, wherein the hybridization reaction is incubated at 42°C in a solution comprising 50% formamide, 5x SSC, and 1% SDS and washed at 65°C in a solution comprising 0.2x SSC and 0.1% SDS, and wherein the ~~nucleic acid encodes a receptor that has G-coupled protein receptor activity~~ binds to a glutamate ligand, which induces GPCR activity.

Claims 2-3. (Canceled)

Claim 4. (Original) The isolated nucleic acid of claim 1, wherein the nucleic acid encodes a receptor comprising an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3.

Claim 5. (Original) The isolated nucleic acid sequence of claim 1, wherein the nucleic acid comprises a nucleotide sequence of SEQ ID NO:4, SEQ ID NO:5, or SEQ ID NO:6.

Claim 6. (Original) The isolated nucleic acid of claim 1, wherein the nucleic acid is from a human, a mouse, or a rat.

Claim 7. (Canceled)

Claim 8. (Original) The isolated nucleic acid of claim 1, wherein the nucleic acid encodes a receptor having a molecular weight of about between 92 kDa to about 102 kDa.

Claim 9. (Canceled)

Claim 10. (Canceled)

Claim 11. (Canceled)

Claims 12-33. (Canceled)

Claim 34. (Original) An expression vector comprising the nucleic acid of claim 1.

Claim 35. (Original) A host cell transfected with the vector of claim 34.

Claims 36-60. (Canceled)

Claim 61. (Currently amended) A method of making a taste transduction G-protein coupled receptor, the method comprising the step of expressing the receptor from a recombinant expression vector comprising a nucleic acid encoding the receptor, wherein the nucleic acid specifically hybridizes under highly stringent conditions to a nucleic acid encoding an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, wherein the hybridization reaction is incubated at 42°C in a solution comprising 50% formamide, 5x SSC, and 1% SDS and washed at 65°C in a solution comprising 0.2x SSC and 0.1% SDS, and wherein ~~the nucleic acid encodes a receptor that has G-coupled protein receptor activity~~ binds a glutamate ligand, which induces GPCR activity.

Claim 62. (Currently amended) A method of making a recombinant cell comprising a taste transduction G-protein coupled receptor, the method comprising the step of transducing the cell with an expression vector comprising a nucleic acid encoding the receptor, wherein the nucleic acid specifically hybridizes under highly stringent conditions to a nucleic acid encoding an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, wherein the hybridization reaction is incubated at 42°C in a solution comprising 50% formamide, 5x SSC, and 1% SDS and washed at 65°C in a solution comprising 0.2x SSC and

0.1% SDS, and wherein the ~~nucleic acid encodes a receptor that has G-coupled protein-receptor activity~~ binds a glutamate ligand, which induces GPCR activity.

Claim 63. (Currently amended) A method of making a recombinant expression vector comprising a nucleic acid encoding a taste transduction G-protein coupled receptor, the method comprising the step of ligating to an expression vector a nucleic acid encoding the receptor, wherein the nucleic acid specifically hybridizes under highly stringent conditions to a nucleic acid encoding an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3, wherein the hybridization reaction is incubated at 42°C in a solution comprising 50% formamide, 5x SSC, and 1% SDS and washed at 65°C in a solution comprising 0.2x SSC and 0.1% SDS, and wherein the ~~nucleic acid encodes a receptor that has G-coupled protein-receptor activity~~ binds a glutamate ligand, which induces GPCR activity.